

**What is claimed is:**

1. An auto-reversible toilet seat mounting structure comprising:

a toilet seat, said toilet seat having pairs of plug holes disposed at a rear side thereof; and

5 at least one pair of coupling devices selectively plugged into said pairs of plug holes and fastened pivotally with a bracket at the back side of the toilet bowl of a toilet for enabling said toilet seat to be turned relative to said toilet bowl between a vertical position and a horizontal position and automatically returned to the vertical position after each use of the toilet by the user, each said  
10 coupling device comprising an inside holding space, a longitudinal partition wall longitudinally suspended in said inside holding space and obliquely downwardly extended from a rear side toward a front side and separating said inside holding space into an upper chamber and a lower chamber, a plurality of solid spherical members put in said inside holding space and movable between  
15 said upper chamber and said lower chamber, said solid spherical members each having a predetermined weight, first passage disposed at a rear side of said longitudinal partition wall between said upper chamber and said lower chamber, first door means pivoted to said first passage for enabling said steel balls to move from said lower chamber into said upper chamber and prohibiting said  
20 steel balls from passing through said first passage in direction from said upper chamber to said lower chamber, second passage disposed at a front side of said longitudinal partition wall between said upper chamber and said lower chamber, second door means adapted to close said second passage, and spring means

supporting said second door means in the close position to close said second passage and adapted to open said second door means for enabling said steel balls to move through said second passage in one direct from said upper chamber to said lower chamber when compressed.

5           2. The auto-reversible toilet seat mounting structure as claimed in claim 1, wherein said first door means is a corrugated swinging door.

          3. The auto-reversible toilet seat mounting structure as claimed in claim 1, further comprising a corrugated partition plate obliquely transversely disposed at a rear side of said lower chamber and extended from one side of  
10   said second passage and adapted to guide said steel balls from said lower chamber toward said second passage.

          4. The auto-reversible toilet seat mounting structure as claimed 1, said second door means is an oblique swinging door.

          5. The auto-reversible toilet seat mounting structure as claimed in  
15   claim 1, wherein said door means is a sliding door formed of an eye plate defining a circular through hole that has a diameter greater than the diameter of said solid spherical members.

          6. The auto-reversible toilet seat mounting structure as claimed in claim 1, wherein said spring means is a coil spring.

20           7. The auto-reversible toilet seat mounting structure as claimed in claim 1, wherein said solid spherical members are steel balls.

          8. The auto-reversible toilet seat mounting structure as claimed in claim 1, further comprising a micro switch adapted to control the operation of a

flushing system upon each use of said toilet seat by a user.

9. The auto-reversible toilet seat mounting structure as claimed in claim 1, wherein each said coupling device further comprises a weight suspended inside said inside holding space near a rear side, and an adjustment  
5 screw adapted to move said weight in said inside holding space and to further adjust the center of gravity of the respective coupling device.

10. An auto-reversible toilet seat mounting structure comprising:

a pivot shaft;

a toilet seat fixedly fastened to said pivot shaft for synchronous  
10 rotation with said pivot shaft; and

two coupling devices pivotally coupling said pivot shaft to a bracket at the rear side of the toilet bowl of a toilet for enabling said toilet seat to be turned with said pivot shaft and said coupling devices relative to said toilet bowl between a vertical position and a horizontal position and automatically  
15 returned to the vertical position after each use of the toilet by the user, each said coupling device comprising an inside holding space, a longitudinal partition wall longitudinally suspended in said inside holding space and obliquely downwardly extended from a rear side toward a front side and separating said inside holding space into an upper chamber and a lower chamber, a plurality of  
20 solid spherical members put in said inside holding space and movable between said upper chamber and said lower chamber, said solid spherical members each having a predetermined weight, first passage disposed at a rear side of said longitudinal partition wall between said upper chamber and said lower chamber,

first door means pivoted to said first passage for enabling said steel balls to move from said lower chamber into said upper chamber and prohibiting said steel balls from passing through said first passage in direction from said upper chamber to said lower chamber, second passage disposed at a front side of said longitudinal partition wall between said upper chamber and said lower chamber,  
5 second door means adapted to close said second passage, and spring means supporting said second door means in the close position to close said second passage and adapted to open said second door means for enabling said steel balls to move through said second passage in one direct from said upper  
10 chamber to said lower chamber when compressed.

11. The auto-reversible toilet seat mounting structure as claimed in claim 10, wherein said first door means is a corrugated swinging door.

12. The auto-reversible toilet seat mounting structure as claimed in claim 10, further comprising a corrugated partition plate obliquely transversely  
15 disposed at a rear side of said lower chamber and extended from one side of said second passage and adapted to guide said steel balls from said lower chamber toward said second passage.

13. The auto-reversible toilet seat mounting structure as claimed 10, said second door means is an oblique swinging door.

20 14. The auto-reversible toilet seat mounting structure as claimed in claim 10, wherein said door means is a sliding door formed of an eye plate defining a circular through hole that has a diameter greater than the diameter of said solid spherical members.

15. The auto-reversible toilet seat mounting structure as claimed in claim 10, wherein said spring means is a coil spring.

16. The auto-reversible toilet seat mounting structure as claimed in claim 10, wherein said solid spherical members are steel balls.

5 17. The auto-reversible toilet seat mounting structure as claimed in claim 10, further comprising a micro switch adapted to control the operation of a flushing system upon each use of said toilet seat by a user.

18. The auto-reversible toilet seat mounting structure as claimed in claim 10, wherein each said coupling device further comprises a weight  
10 suspended inside said inside holding space near a rear side, and an adjustment screw adapted to move said weight in said inside holding space and to further adjust the center of gravity of the respective coupling device.